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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,125	08/18/2003	Nicholas Paul Cowley	MARSP0173US	3519
43076	7590	02/14/2006	EXAMINER	
MARK D. SARALINO (GENERAL) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE, NINETEENTH FLOOR CLEVELAND, OH 44115-2191			VO, NGUYEN THANH	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/643,125	COWLEY ET AL.
	Examiner Nguyen T. Vo	Art Unit 2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-2, 4-10 is/are rejected.
- 7) Claim(s) 3 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 August 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

DETAILED ACTION

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-2, 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (EP 1 079 531 A2, cited by examiner) in view of Cowley (US 2002/0075950 A1, cited by examiner).

As to claim 1, Watanabe discloses in figure 1 a radio frequency tuner comprising a first frequency changer 131 having a substantially fixed frequency local oscillator (see

paragraph [0034]) for performing a block substantially fixed frequency upconversion of channels in any one of at least one first broadband signal in a first frequency range to a second higher frequency range (see paragraphs [0030]-[0033]); a first switch 102 for selecting any one of an output signal of said first frequency changer and at least one second broadband signal in said second frequency range (see paragraph [0035]); and a second frequency changer 132 having a variable frequency local oscillator for selecting and converting any channel of a broadband signal selected by said multiplexer (see paragraph [0034]). Watanabe thus discloses all the claimed limitations except that the switch 102 is a multiplexer as recited in the claim. Cowley discloses using a multiplexer 5 as a switch (see figure 3, paragraphs [0004], [0031]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Cowley to Watanabe, in order to have a simple and low cost way of implementing the switch 102.

As to claim 2, the combination of Watanabe and Cowley discloses the claimed limitations (see Watanabe, figure 1 which shows overlapping frequency ranges of the L-band and upconverted VHF-band).

As to claim 4, the combination of Watanabe and Cowley discloses the claimed limitations (see Cowley, paragraph [0031]).

As to claims 5-6, the combination of Watanabe and Cowley fails to disclose a variable low pass filter as claimed. The examiner, however, takes Official Notice that such a variable low pass filter is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

conventional variable low pass filter in the above combination of Watanabe and Cowley, in order to improve quality of the output signals by filtering high noise components.

As to claim 7, since the combination of Watanabe and Cowley discloses direct conversion 6 (see Cowley, paragraphs [0031], [0033]), the above combination discloses the claimed limitations.

As to claims 8-9, the combination of Watanabe and Cowley discloses the claimed limitations (see Watanabe, paragraphs [0031], [0034]).

As to claim 10, the combination of Watanabe and Cowley discloses the claimed limitations (see Watanabe, paragraph [0001]).

Allowable Subject Matter

5. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 3, the applied references fail to disclose or render obvious a second multiplexer as specified in the claim.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gittinger (3,931,578), Milton (5,640,694), Verheijen (5,068,918), Barakat (5,898,455) all disclose multi-band tuner.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen Vo

Nguyen Vo
2-8-2006